AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS:

1-22. (Canceled).

23. (Currently amended) A method for inducing at least one site directed double-stranded break in the DNA of an organism comprising:

(a) providing ~~a~~ an isolated cell of said organism containing at least one Group I intron encoded endonuclease recognition site at a location in the DNA of the cell,

(b) providing said Group I intron encoded endonuclease to said cell by genetically modifying the cell with a nucleic acid comprising said Group I intron encoded endonuclease or by introducing said Group I intron encoded endonuclease protein into the cell such that the ~~whereby said~~ Group I intron encoded endonuclease cleaves said Group I intron encoded endonuclease site at the location in the DNA of the cell.

24. (Previously presented) The method of claim 23, wherein the site is an I-*Sce*IV site.

25. (Previously presented) The method of claim 23, wherein the site is an I-*Csm*I site.

26. (Previously presented) The method of claim 23, wherein the site is an I-*Pan*I site.

27. (Previously presented) The method of claim 23, wherein the site is an I-*Sce*II site.

28. (Previously presented) The method of claim 23, wherein the site is an I-*Ceu*I site.

29. (Previously presented) The method of claim 23, wherein the site is an I-*Ppo*I site.

30. (Previously presented) The method of claim 23, wherein the site is an I-*Sce*III site.

31. (Previously presented) The method of claim 23, wherein the site is an I-*Cre*I site.

32. (Previously presented) The method of claim 23, wherein the site is an I-*Tev*I site.

33. (Previously presented) The method of claim 23, wherein the site is an I-*Tev*II site.

34. (Previously presented) The method of claim 23, wherein the site is an I-*Tev*III site.

35. (Previously presented) The method of claim 23, wherein the site is an I-*Sce*I site.

36. (Previously presented) The method of claim 23, wherein said method further comprises providing to said cell

a plasmid comprising a DNA sequence homologous to the sequence of the chromosome, which allows homologous recombination, and

a modified sequence,

wherein said Group I intron encoded endonuclease cleaves the Group I intron encoded endonuclease recognition site,

whereby said cleavage promotes the insertion of said modified sequence into said DNA of said cell at a specific site by homologous recombination.

37. (Previously presented) The method of claim 23, wherein said Group I intron encoded endonuclease cleaves the DNA at a unique location in the genome.

38. (Previously presented) The method of claim 23, wherein said Group I intron encoded endonuclease recognition site is located between two DNA direct repeats,

wherein said Group I intron encoded endonuclease cleaves the Group I intron encoded endonuclease recognition site,

whereby said cleavage promotes the recombination between the two direct repeats leading to the deletion of one repeat and sequences between the repeats.

39. (Previously presented) The method of claim 38, wherein said sequences between the repeats comprises a selectable marker.